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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,106	06/24/2003	Alan D. Kraemer	SRSLABS.212C1	1657
20995	7590	10/06/2004	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP			LEE, PING	
2040 MAIN STREET			ART UNIT	
FOURTEENTH FLOOR			PAPER NUMBER	
IRVINE, CA 92614			2644	

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/603,106	KRAEMER, ALAN D.	
	Examiner	Art Unit	
	Ping Lee	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 61-105 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 61-105 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/24/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 61-74, 89-95, and 97-105 specify are rejected under 35 U.S.C. 102(e) as being anticipated by Davis (US 5,862,228).

Regarding claims 61 and 67, Davis discloses a stereo synthesizing apparatus to produce a pair of output signals (Lt,Rt) from a single input signal (Fig. 7) comprising: an input configured to receive an input signal (in(i)), a filter (202, 204) operatively coupled to the input to produce a first filtered signal (to 210) and a second filtered signal (to 216), wherein the first filtered signal and the second filtered signal have a relatively constant phase difference over a range of frequencies (col. 7, line 50 through col. 8, lines 3), and a mixer that adds (218) at least a portion of the first filtered signal (from 210) with at least a portion of the second filtered signal (from 214) to produce a left output signal (Lt) and subtracts (212, 220) at least a portion of the second filtered signal (from 216) from at least a portion of the first filtered signal (from 202) to produce a right output signal (Rt).

Regarding claim 62, Davis shows that the relatively constant phase difference is approximately 90° (col. 7, line 67).

Regarding claim 63, Davis shows that the filter is an all-pass filter.

Regarding claim 64, Davis shows that synthesizing apparatus is a digital signal processor (col. 7, lines 51, 57-57, 65-66).

Regarding claim 65, Davis shows the software (col. 8, lines 30-35; col. 1, lines 4-8), which implements the filter and the mixer.

Regarding claim 66, Davis shows the first and second all-pass filters for providing constant phase shift. Although not clearly shown, one all-pass filter has a leading phase shift and the other one has a lagging phase shift.

Regarding claim 68, Davis's system as shown in Fig. 7 imposes the only phase shift in the all pass filters (202 and 204) and the scalars (214, 210, 212, 216) do not alter phase. Therefore, the left output signal (Lt) and the right output signal (Rt) have the relatively constant phase difference over the range of frequencies.

Claims 69-74 specify similar limitations as in claims 61-68.

Claims 89-94 specify similar limitations as in claims 61-68.

Claims 95, and 97-100 specify similar limitations as in claims 61-68.

Claims 101-105 specify similar limitations as in claims 61-68.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2644

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 96 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis.

Regarding claim 96, Davis fails to explicitly show that the first phase shift is approximately $+45^\circ$ and the second phase shift is approximately -45° . Davis teaches the constant phase shift is 90° without specifying the layout. It was within the level of ordinary skill in the art to implement the constant phase shift is 90° by using any suitable combination of phase shifters, such as first phase shift is approximately $+45^\circ$ and the second phase shift is approximately -45° , or one is 0° and the other one is 90° . As long as the condition is met, any functionally equivalent circuit could be used without generating any unexpected result.

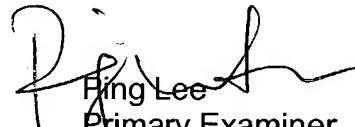
5. Claims 75-88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis in view of Aylward (US 5,228,085).

Regarding claim 75-88, Davis fails to show an enhancement circuit. Aylward teaches an enhancement circuit coupled to the left and right inputs. This circuit will provide a widen sound image for stereophonic signal (col. 2, lines 18-35). Thus, it would have been obvious to one of ordinary skill in the art to modify Davis' system by coupling the left and right output signals to the enhancement circuit as taught in Aylward in order to provide a sound image which is wider than the actual space provided by the left and right speakers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ping Lee whose telephone number is 703-305-4865. The examiner can normally be reached on Monday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ping Lee
Primary Examiner
Art Unit 2644

pwl